

# Making Behavior Interventions Happen

Real strategies for supporting implementation

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## About me

**BA:** University of Arizona

**MA:** University of Connecticut

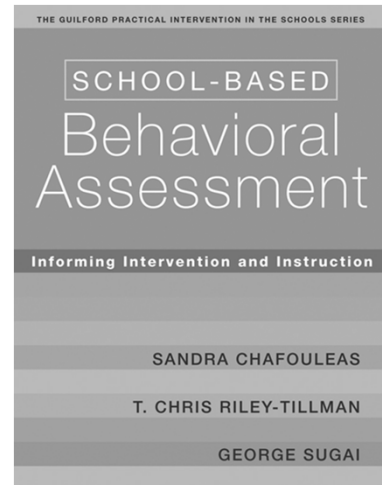
**PhD:** University of Connecticut

- BCBA & Licensed Psychologist
- UC Riverside
  - Assistant Professor
  - School Psychology program
- Research
  - Observationally-based behavior assessment
  - Research to practice gap in school settings
  - Effective practices in behavior intervention



## Conflict of interest statement

- Dr. Johnson is currently revising a Guilford text on school-based behavior assessment, upon which he will receive royalties.



## What is implementation?

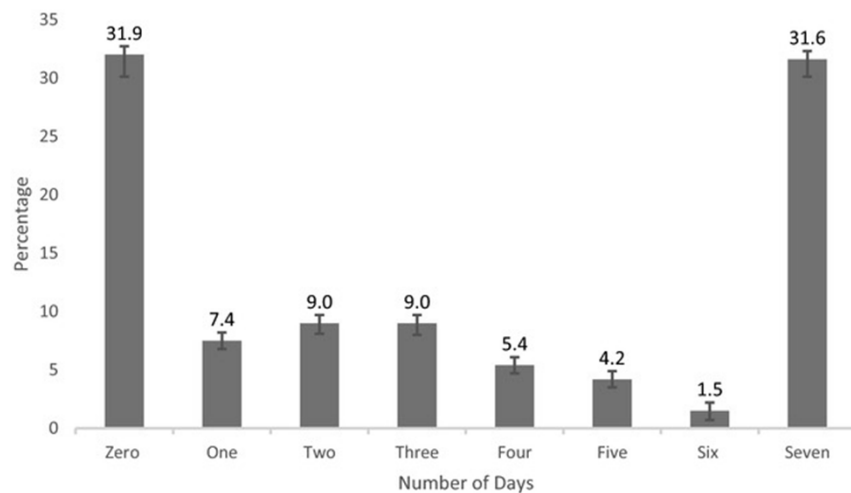
- We assume that if we tell someone to do something, they'll do it.
  - Why wouldn't they?
  - **Because behavior change is really really hard.**
- But if people don't change, then interventions don't happen, **and patients/clients/students cannot benefit from interventions that they do not receive.**

## What is implementation?

- How many people made a New Year's resolution this past year?
- How many people kept it?



## This is not an “education” problem.



(Fleming, Nguyen, Afful, Carroll, & Woods, 2018)

## This is not an “education” problem.

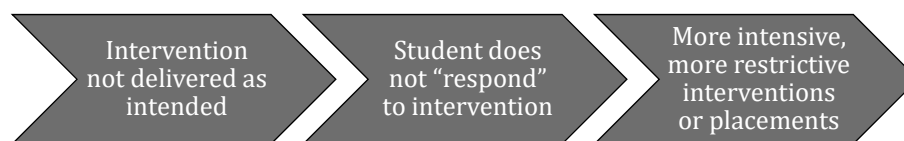
- Spread of most infections in hospitals can be stopped with one simple practice
- On average, healthcare workers clean their hands less than 50% of the times they should
  - Hospital-based infections were a leading cause of death in 2011, cost \$40 billion/year



(Gawande, 2004; Rosenberg, 2011; CDC, 2018)

## This is a human problem.

- We’ve known it for nearly two centuries!
  - 1847: we’re spreading puerperal fever, so wash your hands before delivering a baby!
- By Day 10, most implementers are not delivering the intervention as intended
  - Whether it’s academic or behavioral, individual or group, at school or in home or in the community



(Dufrene et al., 2012; Gilbertson, Willt, Singletary, VanDerHeyden, 2007; Sundman-Wheat, Bradley-Klug, & Ogg, 2012; Fallon, Collier-Meek, Sanetti, Feinberg, & Kratochwill, 2016; Jeffrey, McCurdy, Ewing, & Polis, 2009; Mouzakitis, Coddling, Tryon, 2015; Sanetti, Collier-Meek, Long, Byron, & Kratochwill, 2015)

## So, what do we do?

- 2001: Peter Pronovost
  - Critical-care specialist at Johns Hopkins
  - Focused on fixing one problem: infections when inserting catheter lines
  - Five-step checklist
    1. Wash hands with soap
    2. Clean patient's skin with chlorhexidine antiseptic
    3. Put sterile drapes over entire patient
    4. Wear sterile mask, hat, gown, and gloves
    5. Put sterile dressing over catheter site afterwards

(Gawande, 2007)

## So, what do we do?

- Pronovost persuades administrators to authorize nurses to **stop doctors** if they saw any steps skipped
  - **Needed to make this explicit:** “many nurses aren’t sure whether this is their place, or whether a given step is worth a confrontation.”
- Line infection rate:
  - 2001: **11%**
  - 2002: **0%**
- Prevented 43 infections, 8 deaths, saved \$2m

(Gawande, 2007; Pronovost et al., 2006)

## So, what do we do?

- How do you make behavior change happen?
  - Help people remember what to do
  - Operationalize it into discrete steps
  - Put prevention and response strategies into place to make sure that it can and will happen

These are, of course, ridiculously primitive insights. Pronovost is routinely described by colleagues as “brilliant,” “inspiring,” a “genius.” He has an M.D. and a Ph.D. in public health from Johns Hopkins, and is trained in emergency medicine, anesthesiology, and critical-care medicine. But, really, does it take all that to figure out what house movers, wedding planners, and tax accountants figured out ages ago?

(Gawande, 2007)

## There’s no one-size-fits-all approach

- But these **are** principles we can use regardless of the
  - Intensity of the behavior
  - Stakes of decisions
- Our job is to decide how **simple** or how **elaborate** these systems should be for the case that we’re working with

## Our plan for today

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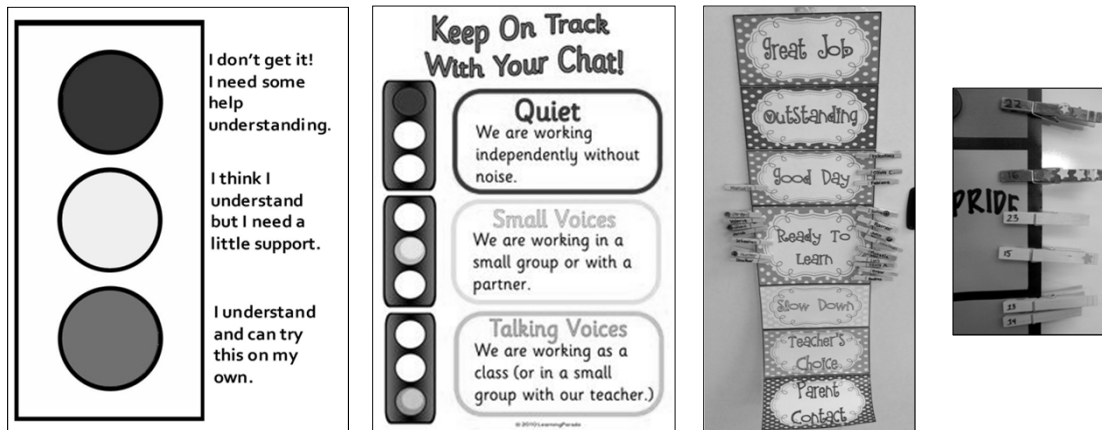
1. Designing a usable behavior support plan
2. Building treatment fidelity assessment into your behavior support plan
3. Working with implementers before it breaks down
4. Supporting implementers after it does break down

### **1. Designing a usable behavior support plan**

AKA: “people use Pinterest because it’s pretty and it’s there”

## People will problem-solve on their own

- “I found this cool thing on Pinterest...”

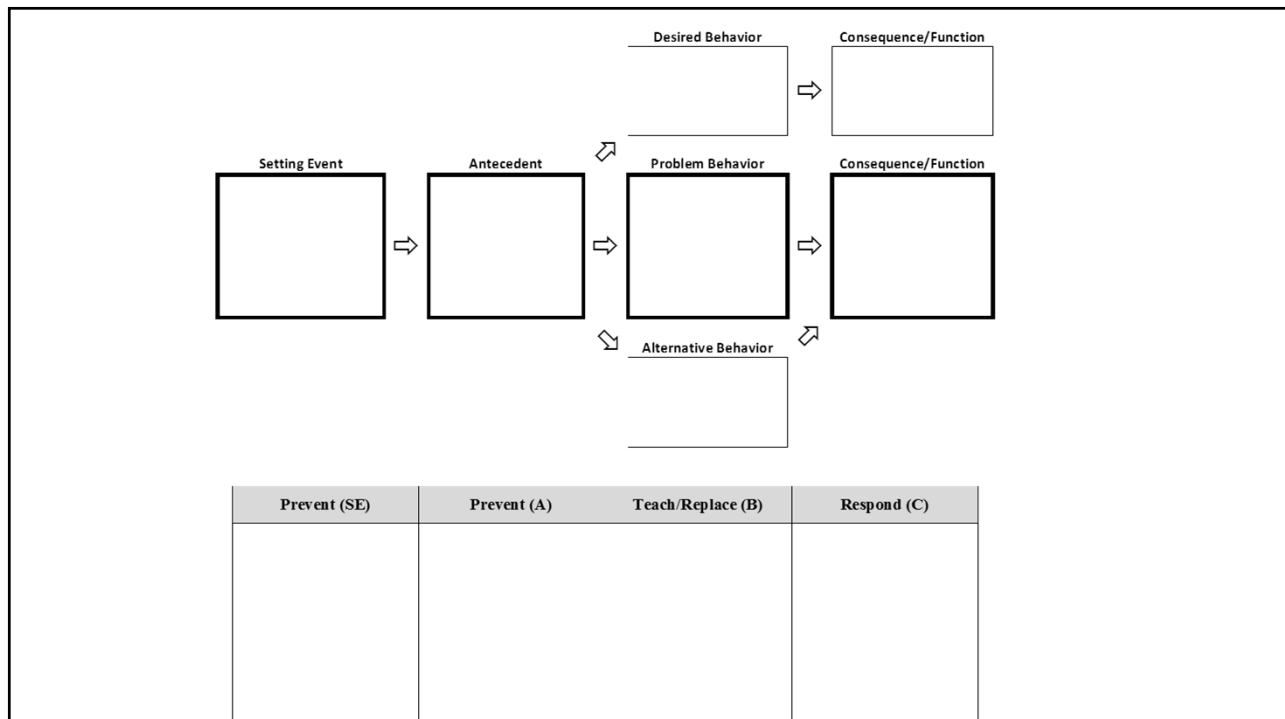
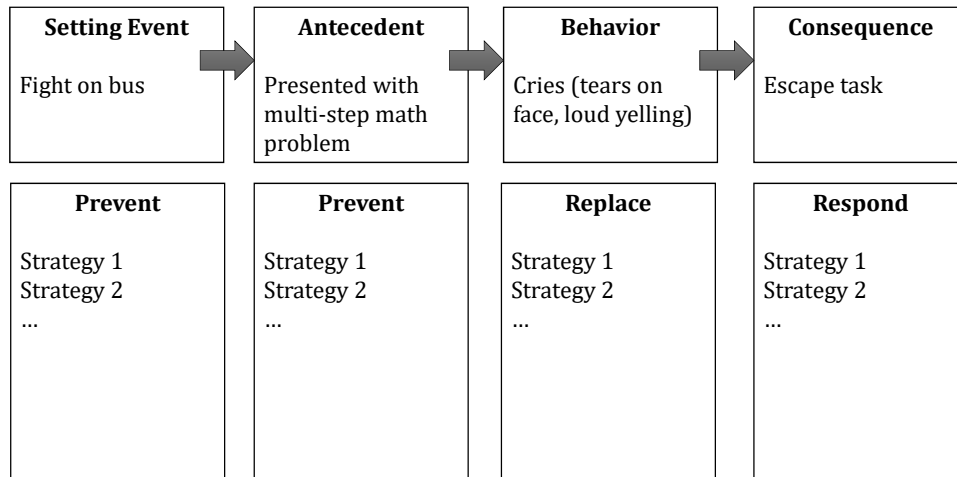


## So make our plan easy to read and use

- We cannot expect implementers to read full paragraphs or page through BIPs
  - **Especially** when responding to behavior!
- **Practice #1** – Write quick guide to BIP using O’Neill et al.’s (2015) format
- **Practice #2** – Create a quick guide
  - Based on same principles as Pronovost’s checklists
  - Make the steps easy to see and understand



## Practice #1 – Make the BIP readable



## Practice #2 – Make the steps visible

- Create a Quick Guide (“cheat sheet”)!
  - Two sections
    - Antecedent strategies [what should I be thinking about all the time?]
    - Consequence strategies [how I respond when I see positive or negative behavior? what if they escalate?]

Behavior Intervention Plan Quick Guide		(Mostly) Antecedent strategies
DURING:	STAFF SHOULD:	BY:
Beginning of day	<input type="checkbox"/> Check in with J	<input type="checkbox"/> Providing brief, positive attention <input type="checkbox"/> Determining rewards and filling in activities for day <input type="checkbox"/> Reminding of consequences for disruptive behavior <input type="checkbox"/> Not providing attention for inappropriate materials in bag
Academic tasks	<input type="checkbox"/> Prepare	<input type="checkbox"/> Giving J a choice of activities. <input type="checkbox"/> Interspersing easy and hard problems.
	<input type="checkbox"/> Engage	<input type="checkbox"/> Providing specific, positive praise throughout task. <input type="checkbox"/> Using active and rapid exchanges. <input type="checkbox"/> Using transition warnings.
	<input type="checkbox"/> Respond	<input type="checkbox"/> Ignoring off-topic comments. <input type="checkbox"/> Engaging in current task with directive or question.
	<input type="checkbox"/> Finish	<input type="checkbox"/> Providing specific, positive praise at end of task.
Throughout day	<input type="checkbox"/> Specific praise	<input type="checkbox"/> “You did a great job on that math worksheet, J”
	<input type="checkbox"/> Positive prompts	<input type="checkbox"/> “Alright buddy, let’s start getting ready for recess”
	<input type="checkbox"/> Nonverbal cues	<input type="checkbox"/> Smiles, thumbs-up, high-fives
IF STUDENT:	THEN STAFF SHOULD:	EXAMPLE/NOTES:

## Consequence strategies and crisis plan

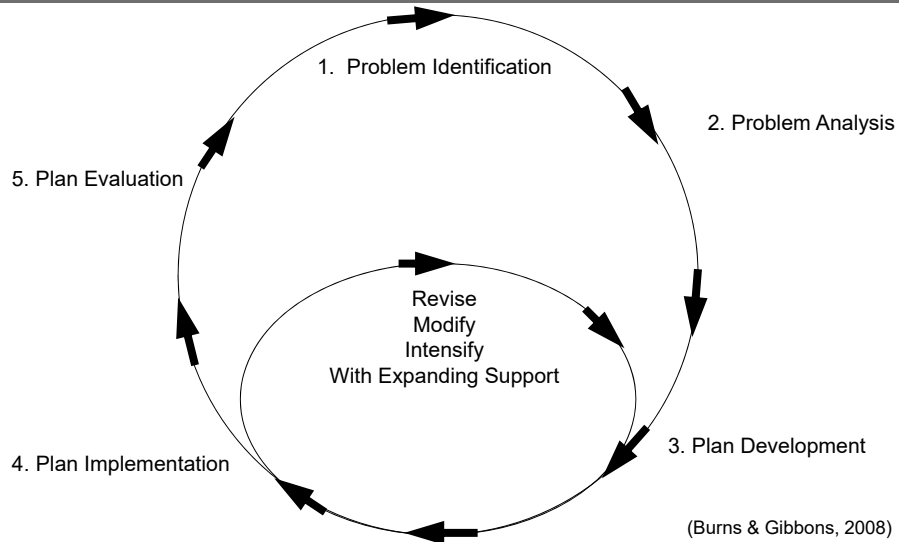
IF STUDENT:	THEN STAFF SHOULD:	EXAMPLE/NOTES:
Raises hand Completes work Has hands to self Has feet to self Uses appropriate language	<b>Immediately, catch him being good by:</b> <input type="checkbox"/> Calling on him <input type="checkbox"/> Providing specific praise <input type="checkbox"/> Reminding him of progress to goal <b>At end of activity, provide points by:</b> <input type="checkbox"/> Marking point on chart at end of period <input type="checkbox"/> Providing specific praise	<b>Ex:</b> "Thanks for raising your hand, J!" <i>*5:1 pos. to neg. statements</i>  <b>Ex:</b> "I loved the way you raised your hand when Mrs. Garza asked that question. Since you had appropriate hands and feet and voice, you earned 3 minutes!"
Starts to be mildly disruptive	<b>Ignore behavior</b> <input type="checkbox"/> No eye contact, neutral face <b>Praise students engaging in positive behavior</b> <b>Give positive praise</b> as soon as he does any appropriate behavior	<b>Ex:</b> J starts to tap on his desk. Ignore. "I love the way that Jason and Vanessa are raising their hand and waiting to be called on!" J stops tapping at any point. "J, great job using quiet hands!"
Continues to be disruptive	<b>Prompt to use replacement behavior</b> <b>Remind him about point sheet</b>	<b>Ex:</b> "J, remember that I need to see quiet hands and feet to give you minutes at the end of this activity."
Escalates to severe problem behavior	<b>Escort to a quiet work space</b> <input type="checkbox"/> Set timer for 5 minutes <input type="checkbox"/> Monitor quietly <input type="checkbox"/> Provide easy worksheets <b>At end of time, remind of goals and return to class</b>	<b>Ex:</b> "You didn't earn your minutes because you walked around the room yelling, which isn't using a respectful voice, feet, or hands. If you can keep your hands and feet to yourself, and use a respectful voice, you can earn your minutes for the next activity!"

## What about tough kids?

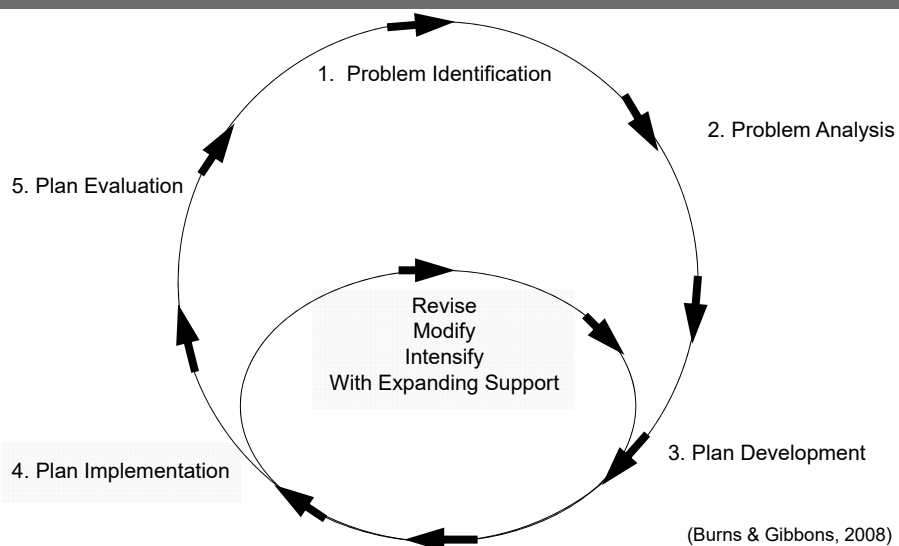
- Integrate the crisis plan into the quick guide
- Consider integrating data collection as well!
- Less paperwork = more time supporting the kid



## Seriously, why do this?



## Seriously, why do this?



Student outcomes	Improving	Continue current practice (or consider fading)
	Worsening	Change intervention

"Awesome!"

(Collier-Meek, Fallon, Sanetti, & Maggin, 2013)

Student outcomes	Improving	Continue current practice (or consider fading)
	Worsening	Change intervention

"Well, we tried, and it's not working. It's time to start talking about [insert more restrictive environment here]."

But were we **actually doing** what we said we would do? **As often** as we said we'd do it? With sufficient **quality**?

(Collier-Meek, Fallon, Sanetti, & Maggin, 2013)

		Implementation	
		At or above criterion	Below criterion
Student outcomes	Improving	Continue current practice (or consider fading)	Determine unknown issue
	Worsening	Change intervention	Provide performance feedback

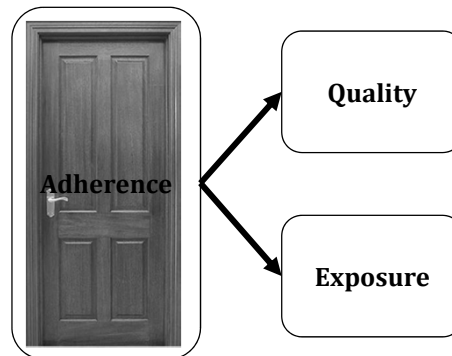
(Collier-Meek, Fallon, Sanetti, & Maggin, 2013)

## Consultation or evaluation?

- “Let’s take data on the student!” = 😊
- “Let’s take data on the teacher/para/aide!” = 😐
- But wait! It’s just consultation skills
- It’s the difference between
  - “Here’s the plan, see you in two weeks.” 😐
  - “I want to make sure this plan works for you. So, here’s a checklist you can use to track what parts you’re able to do, and what parts aren’t working for you and your classroom. Let’s meet back up tomorrow and see what parts worked and what parts didn’t.” 😊

# What should we measure?

- **Treatment integrity**
  - **Adherence:** whether steps were delivered
  - **Quality:** how well each step was delivered
  - **Exposure:** how much of or how long the treatment was provided
  - (and Program Differentiation...)
- Complexity should be driven by case intensity! Adherence is still the main game in town



(Schulte, Easton, & Parker, 2009)

## Session 1:

### Did the group leader cover the following elements?

- 0 – not covered at all
- 1 – cursory reference to this topic and quick review
- 2 – group leader clearly covers the topic, with or without cooperation of group members
- 3 – group leader covers the topic thoroughly, integrating it into the larger context of therapy and in an interactive style)

- \_\_\_\_\_ Introduction of group members, confidentiality, and group procedures.
- \_\_\_\_\_ Explanation of treatment using stories
- \_\_\_\_\_ Discussion of reasons for participation (kinds of stress or trauma).
- \_\_\_\_\_ Homework assignment: Goal-setting

<https://cbitsprogram.org/forms>

## • Intervention fidelity

1. **Adherence:** whether step was delivered
2. **Quality:** how well the step was delivered
3. **Exposure:** how long the step was delivered for

- ☐ Adherence
- ☐ Quality
- ☐ Exposure



**Behavior Intervention Plan (Token Economy)**  
**Intervention Fidelity Form**

Week of: \_\_\_\_\_

During...	Staff will...	Monday	Tuesday	Wednesday	Thursday	Friday
Morning meeting	Provide positive attention					
	Determine rewards, fill activities					
	Remind of consequences					
	Removed materials silently (or n/a)					
Throughout morning	Catch him being good					
	Provide points after each activity with specific feedback and praise					
AM reward	Provide reward time					
Throughout afternoon	Catch him being good					
	Provide points after each activity with specific feedback and praise					
PM reward	Provide reward time					

Checkmark

If student...	Staff will...	Monday	Tuesday	Wednesday	Thursday	Friday
Continues to be disruptive	After ignoring and praising other students, prompt to use replacement behavior and remind him of point sheet					
Needs to leave the room	<input type="checkbox"/> Escort to quiet work space					
	<input type="checkbox"/> Set timer for 5 minutes					
	<input type="checkbox"/> Provide easy worksheets					
	<input type="checkbox"/> At end of timer, return to class					

Tally

**Treatment Integrity Measure for Explicit Timing:**

Steps to follow:	Yes or No Response:
<b>Materials</b>	
1. Stopwatch or watch with a second hand	
2. Kitchen timer with bell	
3. Sets of math worksheets with 100 basic math problems on the front of the sheet stapled together into a packet	
4. Pencil	
<b>Procedure</b>	
1. Set the kitchen timer with an amount of work time (15, 20, or 30 minutes)	
2. Inform the student that the timer is set for an amount of work time. Inform them that you will also be timing them with a stopwatch in 1 minute intervals.	
3. At the beginning of each timing say "Pencils up, ready, begin!"	
4. At the end of the 1 minute interval say "Stop" and have the student draw a line after the last problem answered. Repeat the procedure throughout the set time interval for the work period	
5. When the kitchen timer rings, announce that the work period is over.	
<b>Evaluation</b>	
1. Calculate the average number of correct problems per minute by counting the total number of problems correct for the period and divide them by the number of 1 minute intervals	
2. Compare the average number correct per minute over time to evaluate if the student is becoming more fluent (faster)	
3. Have the student complete this activity 3-5 times per week	

# of "yeses" \_\_\_\_\_ X 100 = \_\_\_\_\_ %  
 13

Count the total number of "yeses" from the yes/no column. Divide this number by the total number of possible "yeses" (i.e. 13) and multiply that number by 100 for a percentage of treatment integrity.

# of "yeses" \_\_\_\_\_ X 100 = \_\_\_\_\_ %  
 13

### Hawkins Mad Scientists! ::: CICO form

Name: \_\_\_\_\_ Today's goal: \_\_\_\_\_  
Date: \_\_\_\_\_ Student signature: \_\_\_\_\_

#### Check In

☐ Pen/Pencil ☐ Paper  
☐ Agenda ☐ Parent signature

\_\_\_\_\_  
Mentor Initials

Expectation	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7
<i>Be safe</i>	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0
<i>Be responsible</i>	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0
<i>Be respectful</i>	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0
<i>Work completion</i>	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0
Total							
Teacher initials							
Student initials							
<b>WOW!</b> comments							

0 = Did not meet expectation  
1 = Sometimes met expectation  
2 = Always met expectation

Daily point total → \_\_\_\_\_ / 56 = \_\_\_\_\_ x 100 = \_\_\_\_\_ (Daily Point %)

Parent signature: \_\_\_\_\_

Parent vows: \_\_\_\_\_

#### Check Out

☐ Form copied ☐ Agenda  
☐ % calculated ☐ Homework

\_\_\_\_\_  
Mentor Initials

AHJ March 2018

Based on form from: <https://my.vanderbilt.edu/specialeducationinaction/files/2013/07/Tip-Sheet-Check-In-Check-Out.pdf>

### CICO Checklist for Ms. Hamilton Week of 2/8/18

Day	Did I...		
	Score the sheet?	Provide specific praise?	Provide specific feedback?
Monday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tuesday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wednesday	<input type="checkbox"/>	<input type="checkbox"/>	n/a (great day!)
Thursday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Friday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 3. Working with implementers before it breaks down

AKA: “an ounce of prevention is worth a pound of aspirin”

#### We need to be realistic

- Interventions are **adapted** in practice
- Interventions that have contextual fit are **more likely** to be implemented
- Adapted interventions **can still work!**
- So, **plan for the inevitable and important!**

*“We can thus say now with confidence that some measure of adaptation is inevitable and that **for curriculum developers to oppose it categorically**, even for the best of conceptual or empirical reasons, **would appear to be futile.**”*

(Durlak & DuPre, 2008)

## Implementation planning

- Plan has been drafted (the BIP exists)
- Ideally, plan was drafted with abundant stakeholder input with an eye towards implementation
- But what if it's for a secondary student? Lots of teachers and educators who we didn't talk to
- So, now we need to figure out
  - What modifications need to be made to the plan
  - What resources we'll need, and if we can get them
  - What barriers to implementation exist
  - How we'll address those barriers

## Action and Coping Planning

1. What modifications need to be made to the plan
2. What resources we'll need, and if we can get them

ACTION  
PLAN

1. What barriers to implementation exist
2. How we'll address those barriers

COPING  
PLAN

- Based on results from PRIME Project
- Multiple studies to support effectiveness of this framework
  - With parents and teachers
  - For academic and behavioral interventions

(Fallon, Collier-Meek, Sanetti, Feinberg, & Kratochwill, 2016; Sanetti & Collier-Meek, 2015; Sanetti, Collier-Meek, Long, Byron, & Kratochwill, 2015; Sanetti, Collier-Meek, Long, Kim, & Kratochwill, 2014; Sanetti, Williamson, Long, & Kratochwill, 2017)

## How do you do this?

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- With a meeting! (...hooray...)
  - Sit down with the stakeholders
  - Action Plan
    - Task analyze intervention into discrete steps
    - Identify resources needed for each step
  - Coping plan
    - Discuss foreseeable barriers to implementation
    - Discuss strategies to support implementation
- Monitor outcomes, modify, check-in, discuss, and revise on an ongoing basis

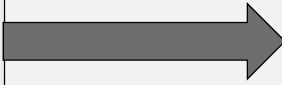
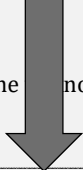
## **4. Supporting implementers after it does break down**

## Welp, it's not happening

		Implementation	
		At or above criterion	Below criterion
Student outcomes	Improving	Continue current practice (or consider fading)	Determine unknown issue
	Worsening	Change intervention	Provide performance feedback

(Collier-Meek, Fallon,  
Sanetti, & Maggin, 2013)

## Welp, it's not happening

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(Collier-Meek, Fallon,  
Sanetti, & Maggin, 2013)

## Performance feedback

- So many studies examining its effect on treatment integrity and student outcomes
- Meets What Works Clearinghouse standards for an evidence-based practice!
- When it comes to evidence-based implementation support strategies, **performance feedback is the most well-researched**

(Fallon, Collier-Meek, Maggin, Sanetti, & Johnson, 2015)

## What is it?

- “Information that is provided to an individual or group about the quantity or quality of their behavior that provides information about how well they are doing”  
(Noell & Gansle, 2014)
- → **“capturing, summarizing, and presenting data to teachers regarding their plan implementation”**

## Performance feedback

- **Showing data to a person and reviewing it with them** can be effective on its own
  - Can embed with other training methods
- **Logistics**
  - **Brief** meetings (5 to 15 min)
  - **Ongoing** (daily, weekly, as-needed)
  - Need **graphs** of data

(Noell & Gansle, 2014; Fallon et al., 2016)

## Doing it

1. **Ask** implementer about
  - Intervention fidelity
  - Student outcomes
2. Review **fidelity** data with graphs
3. Review **outcome** data and goal progress
4. Review and **practice** steps as necessary
5. **Follow up!**



## Of those studies that found PF to be effective...

- Type of feedback
  - 97% provided verbal feedback
  - 69% provided graphic TI feedback
  - 69% reviewed student data
  - 62% included problem-solving to support implementation
  - Less-often used were goal-setting (17%), reinforcement procedures for adult (17.5%)
- Frequency of feedback
  - Varied greatly (28% daily, 21% weekly, 7% only when TI fell below a criterion)
- When feedback was provided relative to intervention
  - Same day (21%), one or two days after (24%)
- Student characteristics
  - 73% were with kids receiving sped services, 27% with gen ed only

## Superior to other methods

- Results of randomized trial
- Consultation follow-ups
  - Brief weekly interview
  - Weekly interview with commitment to implement
  - Performance feedback
    - Met every day until at 100% integrity, then every other day, then weekly



(Noell et al., 2005)

Figure 1. Mean treatment integrity by week for each consultation condition.

## That's so much

- Yes, but realistically:
  - “The literature suggests that **consulting** with teachers, **designing** an intervention they seem acceptable, **providing** materials necessary for the intervention, **discussing** the importance of intervention implementation, and **training** teachers to implement the intervention **are frequently insufficient to support long-term [implementation]**”

(Noell & Gansle, 2014)

## How to do it?

- Can occur in the context of:
  - **One-on-one consultation**
    - Pros: Easier for you to influence how this goes
    - Cons: Depending on the relationship, might be difficult to do PF effectively
  - **Embedded into a Problem-Solving Team**
    - Pros: Less duplication of resources, may ameliorate concerns about evaluative roles
    - Cons: May exacerbate tensions in data collection (have to report out on my data to all these people...)

(Duhon, Mesmer, Gregerson, & Witt, 2009)

## Wrapping up

### Supporting implementation

1. Design the materials **to be used**, not to be filed
  - “Write it like you want someone to read it”
2. Take implementation data, but make sure the data **work for you and the case**
  - “What question am I trying to answer?”
3. Be realistic and **plan for adaptations**
4. **If and when it fails**, use those data you’re taking to implement PF: a simple, evidence-based practice for supporting implementation

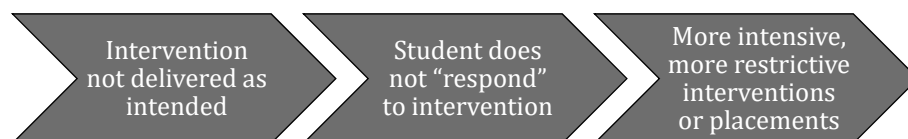
## Wrapping up

- Doesn't seem like much? Pretty straight-forward stuff?
- I agree! That's why it's great!
- This stuff is not complex.
- But it's evidence-based!
- And it takes time and effort.



## Wrapping up

- “These **steps are no-brainers**; they have been known and taught for years. So **it seemed silly** to make a checklist just for them. Still, Pronovost asked the nurses in his I.C.U. to observe the doctors for a month as they put lines into patients, and record how often they completed each step. **In more than a third of patients, they skipped at least one.**” (Gawande, 2007)



## Next steps

- Researchers need to **give practitioners the tools they need** to implement the practices that they study

IBL Home Teachers Specialists About Search

### Good Behavior Game

Why would I use this? Because you like the idea of students working together in teams to support one another towards being successful. You have specific time periods during the day when you'd really like to focus in on supporting positive behavior.

Whole class

IBL Home Teachers Specialists About Search

### How do I do it?

I'm really struggling with my third-grade math block. During the day, my students are generally fine, but we're getting into some tougher content and they're just not acting like themselves. So, as a first step towards getting back on track, I decide to give the GBG a try. My classroom is already organized into 6 groups of 5 students each that are pretty evenly split based on academic and social skills. So, I pick 3 groups for Team A, and 3 groups for Team B.

Good Behavior Game

TEAM 1 TEAM 2

If anyone on the team breaks a rule...

Share

## Thank you!

- Want to partner on developing usable, evidence-based behavior intervention materials? Other ideas? Contact me!
- Email: [austin.johnson@ucr.edu](mailto:austin.johnson@ucr.edu)
- Phone: 951-827-5958
- Twitter: @johnsonaustinh
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